RESTORING THE BALANCE

Using Remedial Measures to Avoid and Cure Non-Compliance Under the Kyoto Protocol

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Prepared for The World Wildlife Fund

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I. INTRODUCTION

As Parties to the UN Framework Convention on Climate Change continue to develop a compliance system for the Kyoto Protocol, there is growing acceptance that an effective system will address cases of non-compliance by resorting to a broad range of responses from the treaty institution. This acceptance is reflected in the January 31, 2000 submissions from Parties in response to the Joint Working Group on Compliance Co-Chairs' "Elements" paper,[1] in which Parties voiced their support for numerous types of consequences.

This paper seeks to further the debate by reviewing several of the possible compliance consequences, or measures, listed in the Elements paper, as well as other related proposals that are currently receiving the Parties' attention. We concentrate on measures designed to avert or cure non-compliance with the core Annex I obligation contained in Article 3.1.

Compliance responses generally can be divided into three categories: facilitative, remedial and punitive. Facilitative responses are those that provide assistance to Parties to achieve, maintain, or return to compliance. Remedial responses are designed to enable a Party, through its own efforts, to avert impending non-compliance or quickly restore itself to compliance and, in the process, "make the climate whole."[2] Punitive responses are used to pressure recalcitrant Parties that fail to avert non-compliance or cure it in a timely manner to change their behavior. These responses generally represent the steps of last resort in a compliance system. In practice, their main value is to deter, rather than punish, undesirable behavior.

This paper focuses on remedial measures. It does not discuss facilitative responses, which may include such measures as providing incentives, advice or assistance. The paper contains

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[1] UNFCCC, Joint Working Group on Compliance, *Co-Chairmen's Compilation of Elements for a Framework of a Compliance System Under the Kyoto Protocol* (Feb. 11, 2000) [hereinafter "Elements" paper].

[2] For the purposes of this paper, "make the climate whole" means returning the carbon accounts of Annex I Parties to balance so that their aggregate emissions—adjusted as permitted through the cooperative mechanisms—do not exceed the levels they committed to under the Kyoto Protocol.

a brief discussion of punitive measures to explore how they can work in tandem with remedial measures. Punitive measures are the compliance "backstop" that ensure Parties take their commitments seriously and fully implement remedial measures if they are required.

Part II of the paper will discuss the role of remedial measures during the true up to the commitment period. During this time, Parties will have an opportunity to balance their GHG ledgers and "true up," if need be, by purchasing Kyoto mechanism credits on the open market. Part II will begin by describing and evaluating an internationally managed *Compliance Fund*.[3] In the event there are insufficient Kyoto mechanism credits available during the true up to satisfy demand, Parties with overage can avert non-compliance by purchasing credits from the Fund. The Compliance Fund then uses those receipts to mitigate the overage by investing in highly reliable, "gold standard" abatement projects. Our discussion will provide an overview of how the Fund might work, including what institution might administer it, what types of projects it might underwrite, how the price of Fund credits could be set, and under what circumstances credits should be made available.

While we envision the Compliance Fund as a mechanism administered at the international institutional level, some Parties are discussing the possibility of a fund that could be controlled domestically, by the Party with overage. Part II will conclude by identifying some of the forms such funds could take, and then evaluating their strengths and weaknesses.

Part III will discuss the role of remedial measures *after* the true up, when they will be used to cure, rather than avoid, non-compliance. The Part will begin with financial penalties, and will note that proceeds from financial penalties will "make the climate whole" only if they are used to underwrite GHG mitigation. Accordingly, we recommend that financial penalties be paid into the Compliance Fund. This section will also discuss the merits of setting financial penalties by using a "dynamic" or floating per-tonne rate, or by using a fixed rate, which may tend to function as a "price cap" for the commitment period.

Next, Part III will review the proposal for "subtraction of tonnes," also known as "borrowing" or "reduction of future assigned amount." This consequence to non-compliance permits Parties to "pay" for overage in one commitment period by reducing their assigned amount in the next period by the same amount, but increased by a penalty. Subtraction of tonnes allows Parties to defer action to eliminate their overage to the next commitment period. It contains the possibility that Parties will repeatedly "roll over" their overage by borrowing from commitment period to commitment period, and may provide an incentive for non-compliance. These deficiencies make it an unacceptable consequence to non-compliance under the Protocol.

Part III concludes with the proposal that a non-compliant Party's remediation include preparation of a *compliance plan*. The plan would demonstrate how and why the Party will

[3] Parties generally recognize that a true up or grace period of some kind will be necessary at the close of the commitment period. *See* Elements Paper, *supra* note 1, at 4. However, the JWGC has not yet taken up the matter in any depth. While the precise nature of the true up is beyond the scope of this paper, we acknowledge that its timing—precisely when it occurs and for how long—will have implications for the Compliance Fund. We intend to examine these implications at a future time.

be able to change its implementation strategy to ensure that it can repay its first commitment period debt while simultaneously meeting its second commitment period target.

Part IV discusses how the compliance system might employ punitive measures to enforce compliance in the event a Party refuses voluntarily to cure its non-compliance through remedial measures. The Part first notes the value of "shaming," or publicizing non-compliance. It next discusses the suspension of treaty privileges, including suspending a Party's right to engage in emissions trading. Finally, the Part closes by briefly exploring how trade measures might be used in the Kyoto Protocol context.

II. REMEDIATION DURING THE TRUE UP

A. THE COMPLIANCE FUND

1. The Basic Idea

The Compliance Fund is designed to help Annex I Parties maintain compliance with their basic Protocol obligations. While domestic action should be at the core of Annex I Parties' compliance strategies for the first commitment period and beyond, at the close of a commitment period the opportunity for a Party to accomplish further domestic reductions for that period will no longer be available. The Protocol allows Parties to use credits from the Kyoto mechanisms to satisfy part of their obligations. Many Parties assume they will be able to eliminate any overage they have at the end of the commitment period by raising their assigned amounts through the purchase of Kyoto mechanism credits. However, there is no way of knowing in advance whether these mechanisms will provide the market with enough credits to satisfy the Parties' needs. If there are insufficient credits available during the true-up to the commitment period, Parties could be faced with breaching their Protocol obligations, even if they have the will to comply.

In that event, Parties can pay into the Compliance Fund and avoid being out of compliance when the true-up ends.

Fees collected by the Compliance Fund are used to underwrite highly reliable, "gold standard" GHG mitigation projects throughout the world. The Fund sets fees on the basis of actual estimated mitigation costs, plus a surcharge to account for administrative costs, funding for adaptation, and the risk of project failure. The surcharge also serves to make the price of Fund credits high enough to dissuade Parties from relying upon them as a first choice for their commitment period implementation strategies.

Upon payment of the fee, the Party receives emissions credits equivalent to the amount of its overage. The Party adds the credits to its assigned amount, thereby ensuring that its

aggregate emissions no longer exceed the amount and that it is in compliance with its Article 3.1 obligation.[4]

2. No New Legal Requirement

It is important to make clear that the Compliance Fund will not create any new legal requirement for Parties. The fundamental legal requirement Annex I Parties have under the Protocol is to ensure that their emissions over the course of the commitment period do not exceed their assigned amounts. Should they fail to do this, they will face a finding of non-compliance and an appropriate consequence. During the true up, the Compliance Fund serves as a means of permitting Parties with overage to avoid non-compliance by purchasing Fund credits. If a Party elects not to use the Fund, it will need to find an alternative way to remedy its overage. If it fails to find an alternative—and thus fails to remedy the overage—it will face a non-compliance consequence. However, the Party's choice not to use the Compliance Fund would not, in and of itself, lead to the imposition of any additional penalty.

3. Fund Administrator

As the rules for implementing the Protocol take shape, many Parties have expressed concern that creating too many new international institutions will lead to increased complexity, expense, and bureaucratic red tape. We believe the Compliance Fund can be implemented without creating a wholly new institution. Considering the role the clean development mechanism (CDM) will play in using mitigation projects to assist Annex I Parties achieve their emissions targets and non-Annex I Parties achieve sustainable development, the Compliance Fund could be administered as part of the CDM.

The CDM is already charged with assisting "in arranging funding of certified project activities as necessary."[5] Compliance Fund moneys could be integrated into this funding structure. The only additional tasks needed for operating the Fund would be determining what classes of CDM projects would be eligible for underwriting from the Fund, setting the price for Fund credits, and collecting payments from Parties.

While it should retain an oversight role, the CDM executive board would probably not be appropriate for administering the Fund, because it likely will meet only intermittently and would seem to be too high level a body to manage Fund activities on a day-to-day basis. Instead, a qualified operational entity or entities could provide the needed administrative services, provided there are adequate safeguards to prevent possible conflicts of interest. For example, it would be incumbent that the entity not have a financial stake in any CDM projects. Neither should the entity charged with approving or selecting projects be responsible for verification or certification of GHG reductions as they accrue.[6]

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[4] The Compliance Fund can also play a role in remedying cases of non-compliance after the true up is over. *See* discussion *infra* p. 15.

[5] Kyoto Protocol art. 12.6.

[6] Protocol Article 12.5 specifies that "[e]mission reductions resulting from each project activity *shall be certified by operational entities* to be designated by the [COP/MOP]. . ." (emphasis added). In our view, this language allows certification of emissions reductions to be carried out only by designated operational entities.

Other existing institutions that have experience with greenhouse gas abatement projects could be considered for Compliance Fund administration. These might include the GEF, the World Bank, and/or regional development banks such as the EBRD.

4. Recommended Project Types: "Gold Standard" Projects

Because the Compliance Fund may award credits before a project produces any actual climate benefits, the overwhelming consideration for mitigation projects underwritten by the Fund should be reliability. The Fund will be viable as a mechanism for "making the climate whole" only if collected payments result in genuine GHG reductions equal to or greater than the amount of overage for which a Party is given credit. Consequently, the Fund should invest only in those project types that have the lowest risk of leakage and project failure, and that have well-established methodologies for determining baselines and additionality. Examples of appropriate project types might include demand-side technologies like energy efficient domestic appliances to reduce energy consumption, or renewable energy sources such as solar, wind, or bio-gas to replace fossil fuel-generated electric power.

5. Setting the Price

The price of Fund credits during the true-up period should be high enough to 1) fully remove emissions in a quantity at least equal to a Party's overage, and 2) neutralize any economic incentive Parties might have to delay making timely reductions on their own. Vigorously stressing reliability over cost-effectiveness will mean that credits obtained through the Fund likely will cost more than credits Parties might have obtained through the other Kyoto mechanisms. This higher cost should dissuade Parties from using the Fund as an option of first resort.

The Compliance Fund credit price may be calculated as follows:

(base price) x (1 + multiplier) = Compliance Fund credit price

where the multiplier = (administrative expense surcharge rate) + (adaptation surcharge rate) + (project risk rate).

The base price is derived by reviewing price-per-tonne data from CDM projects of appropriate technologies reported through the end of the commitment period.[7] The price data is then averaged by project or technology type. The Compliance Fund administrator identifies and quantifies the anticipated opportunities for CDM project investment, including the proportional mix by project or technology type, that will be available after the commitment period ends. The administrator then uses those proportions to arrive at a weighted average of all the price data for the appropriate-technology projects. That is the base price.

However, it does not require, nor should it be interpreted to require, *all* CDM operational entities to engage in certification activities.

[7] Optimally, this type of data will be collected and compiled pursuant to the regular reporting requirements for CDM participants and the reviews performed by operational entities in the verification and certification procedures.

For the multiplier, the administrative expense and adaptation surcharge rates could be the same respective rates used for CDM projects pursuant to Article 12.8. The project risk rate may be very low if there are a sufficient number of projects from which the base price data is derived, because project risk would presumably be reflected in the reported data.[8] However, the risk rate should also account for the additional environmental damage caused by the delay between when the Party *should* have accomplished its reductions (i.e., before the true up) and the time they will actually be accomplished.

6. Availability of Compliance Fund Credits

As discussed above, the purpose of the Compliance Fund during the true up is to assure there is "liquidity" in the system: If Parties with overage face a declaration of non-compliance because there are insufficient Kyoto mechanisms credits available on the open market during the true up, they can purchase enough credits from the Compliance Fund to honor their Article 3.1 commitments and stay in compliance.

Simply assuming that a point will arrive at which there are *no* credits—and that that is when Fund credits should be offered—is unrealistic. There will probably always be *some* credits available. Some Parties or private entities may speculatively hold back their excess credits, waiting to offer them at extreme prices when Parties in need have no other options. Indeed, should the market price become high enough, some Parties may be willing to sell parts of their assigned amounts that they had held back for their own compliance purposes, if they believe that the price they receive will exceed the risks of any penalty they might face under Article 18.[9] As these examples show, the number of credits that are available or unavailable on the open market can probably not form a coherent basis for deciding whether Parties should be able to purchase Compliance Fund credits.

Instead, Compliance Fund credits should be available at a fixed price throughout the true up. As the commitment period comes to a close, the Compliance Fund administrator would calculate the price of Fund credits by using the formula described above. Then, when the commitment period ends (and the true up presumably begins), the administrator or secretariat would publicly announce the Fund price and offer to sell Fund credits at that price to any Annex I Party, upon demand. This would provide stability for the market price of Kyoto mechanism credits during the true up. However, because the price of Fund credits will be set high enough to ensure that they will underwrite genuine emissions reductions, the environmental integrity of the commitment period should be preserved. The higher price will also assure that the availability of Fund credits does not inappropriately interfere with the market for the other Kyoto mechanisms.

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[8] Projects that fail or perform poorly will deliver few (or no) CERs per dollar invested. So long as data from all relevant CDM projects—including those that failed—is evaluated, risk will be incorporated into the weighted average price, because failures and poor performers will increase the average per-tonne price for that type of project.

[9] To minimize the risk of this possibility, emissions trading should be conducted under a buyer or hybrid buyer-seller liability rule. *See* Donald Goldberg, Steven Porter et al., *Responsibility for Non-Compliance Under the Kyoto Protocol's Mechanisms for Cooperative Implementation* (Center for International Environmental Law 1998).

7. Strengths and Weaknesses

Ideally, the Protocol's compliance-related tools should "make the climate whole," eliminate the economic benefits of non-compliance, and provide clear incentives for timely compliance. The merit and feasibility of such tools should be determined by evaluating them from environmental, economic, and political perspectives.

a. Environmental and Economic Perspectives: Reliable, Efficient; Enhances Assurance

The Compliance Fund is effective from environmental and economic perspectives because it is reliable and efficient. By using collected fees to underwrite only carefully designed projects that bring actual, verified GHG reductions, the Fund assures that carbon ledgers for the commitment period will ultimately balance. This attribute of the Fund is essential when Parties have overage and thus bear the responsibility of recouping a specific number of tonnes. Similarly, because it directly accomplishes quantifiable, verifiable mitigation by reducing emissions at their source through projects, the Compliance Fund will be an efficient way to correct specific amounts of overage. Regulatory approaches such as policies and measures or carbon taxes should form the foundation of a Party's implementation strategy during each commitment period; however, these approaches may be more broad than necessary when the need is to recoup a specific number of tonnes.

The Compliance Fund's effectiveness is also enhanced by its relative simplicity, which should make it cost-effective to implement and administer. Because it can be operated as a division of an existing institution, the Fund should require little additional rulemaking or institutional capacity. Moreover, because a Party's liability for overage ends once it tenders payment to the Fund, there will be no need for the Protocol's compliance institution to maintain prolonged, expensive (and potentially confrontational) oversight over the Party to ensure that it eventually restores or corrects its assigned amount.

The Fund can increase the assurance of other Parties and, in turn, increase their confidence in the treaty institution as a whole. Parties that utilize the Fund will be paying for "gold standard" projects that are among the most reliable for delivering reductions. Because the most important criterion for selecting these project types will be quality rather than cost, Fund prices should be high enough so that Parties who use the Fund do not obtain an economic advantage from delay. This will help assure those Parties who accomplish their reductions in a more timely manner during the commitment period that their economic competitiveness will not be undercut by non-complying Annex I Parties.

Most importantly, the Compliance Fund can enhance assurance because it does not require other Parties to wait for five or more years to see if a Party with overage will take steps to cure it. When a Party tenders payment in full to the Fund, its compliance question will be resolved, and it will no longer be responsible for correcting the overage. Instead, a disinterested institution will be charged with using the payment to underwrite the Fund's abatement projects. Therefore, the question of whether or not others will have to rely on the Party's promise to fix the problem will be moot, and a potential source of distrust will be removed.

b. Political Perspective: A Question of Will

The main challenge for the Compliance Fund comes from the political part of the evaluation. The Fund can provide a strong means of assuring Parties that their compliance efforts or economic competitiveness will not be undercut by others' under-compliance. Accordingly, it should be embraced by Parties that share this concern. But some Parties are equally or even more concerned that they may be unable to achieve their own targets. Some of these Parties may be unwilling to accept a compliance tool that could conceivably result in their "signing a check" and delivering it to a multilateral organization. It is widely known, for instance, that the United States Congress has for years resisted and delayed appropriating the money for U.S. dues to the United Nations.

Ultimately, this is a political decision that each Party must make for itself based upon its individual circumstances and its relationships with other states. Governments and their citizens must decide how important the threat of climate change is to them, and how much they are willing to commit themselves to taking the necessary steps to address it. Parties' willingness to commit to serious mitigation strategies will likely increase as the climate change threat becomes more apparent over time. The compliance system should, in turn, be designed with the expectation that it will evolve to respond to these changing political and environmental conditions. However, for those Parties that presently *do* have the will, the effectiveness, reliability and efficiency of the Compliance Fund should make it a useful tool for remedying overage during the true up and beyond.

B. VARIATIONS ON THE THEME: A DOMESTIC "CLIMATE CHANGE FUND"

1. The Basic Idea

Some Parties have suggested that the best way to address this question of political will would be to set up a fund that is administered by the Party with overage.[10] During the true up, a Party could commit itself to allocating moneys to develop projects that would mitigate GHGs equivalent to the overage. The Party itself would retain these moneys, thereby eliminating the need to "sign a check" and make payment to an international organization.

The domestic fund could be authorized under the Kyoto Protocol in two very different forms. At one extreme, Parties would be free to set up and manage their individual funds in any manner they chose. This would essentially be an unregulated fund, and would be designed according to the preferences and individual circumstances of each Party. A far more reliable and efficient form would be one closely patterned after the Compliance Fund as it is described in the previous section of this paper.

2. The Self-Designed Domestic Fund

While a self-designed domestic fund would give individual Parties the greatest degree of flexibility and autonomy in dealing with their overage, any meaningful international

[10] This idea has been discussed within the Umbrella Group and at the recent Montreaux meeting, February 9-11. To the best of our knowledge, it has not yet been developed in detail by any Party.

oversight of the Party's performance could be difficult or impossible, due to the nearly infinite ways in which Parties could manage and implement their funds.

a. Capitalizing and Managing the Fund

In a self-designed domestic fund, moneys could be raised and administered by any number of means. They could be appropriated from general revenues and set aside in a restricted trust or escrow account at the time the Party made the election to use the fund. They could be appropriated whenever they were actually needed to underwrite a project, and not actually held in a special account at all. Or they could be raised over time by taxing or penalizing the Party's regulated entities that were adjudged to be responsible for the overage.

In fact, it would be unclear on what basis a per-tonne price would be determined for a self-designed and administered fund. This would, in turn, make it unclear exactly how much money a Party would be required to appropriate to the fund. Would there be any actual requirement? What if projects turned out to be more or less expensive than the moneys that had been allocated to pay for them? Would Parties be able to return any excess moneys to their general revenues? Would they be required to commit more moneys for under-budgeted projects?

In the absence of standardized international rules, a self-designed domestic fund could be managed and accounted for in as many ways as different governments manage and account for any of their other revenues. Opportunities for governments to "game the system" through creative bookkeeping would thus be myriad. It would obviously be exceedingly difficult or impossible for the Protocol's compliance system to provide any meaningful oversight in such a situation. This type of fund would, in our view, be little more than a promise from a Party with overage that it would somehow correct the overage sometime in the future. If by electing to use this kind of fund during the true up a Party with overage could avoid facing a compliance proceeding and finding of non-compliance, then the fund would essentially be the same idea as the version of "borrowing" that was rejected by the Parties soon after it was proposed by the United States, which would have allowed Parties to stay in compliance with their commitment period obligations by simply promising to make up the difference in subsequent periods.[11]

b. Eligible Project Types

The self-designed domestic fund could similarly take many different approaches towards mitigating the Party's overage. We assume Parties would be limited to funding *project-based* mitigation, and that broader based programs such as enhanced policies and measures would not be eligible for the domestic fund.[12] Projects might include domestic projects located within the Party's national territory, foreign-sited projects, or a combination.

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[11] It is not our contention here that Parties are actually proposing a domestic fund that would be free of any international rules. We do believe, however, that it is important for Parties to appreciate how easily a domestic fund could become a serious compliance loophole.

[12] We make this assumption because only projects will be able to result in specifically quantifiable GHG abatement.

However, unless they are strictly regulated in a manner similar to CDM projects, there will be a moral hazard that projects may be defined in environmentally and economically lax ways, or that they may be selected for political rather than environmental reasons, so that their claimed mitigation benefits are not truly additional. This could be especially so if the project selection and approval process is not tempered by the influence of a foreign partner, as will generally be the case in JI and CDM projects.

3. The Internationally Designed Domestic Fund

As discussed earlier, the main impetus behind a domestic "climate change fund" is that it would not require the politically unpredictable act of "signing a check" and making payment to an international compliance institution. We do not believe, however, that the reluctance of some Parties to empower Protocol institutions with the means of enforcing Article 3 commitments should serve to create a new loophole that allows Parties to evade those commitments. Consequently, we argue that, should the COP[MOP] elect to authorize the use of domestically administered funds, it should require them to be operated under rules closely patterned after the Compliance Fund, as described earlier in this paper and as reviewed below.

a. Suspension of Compliance Proceeding; Continued Liability

One central aspect of the Compliance Fund should not apply to a domestically administered fund. Under the Compliance Fund, a Party that makes full payment during the true up receives emissions credits equivalent to the amount of its overage. It then can add the credits to its assigned amount, ensuring that its aggregate emissions no longer exceed the amount and that it is in compliance with its Article 3.1 obligation. Because the Party is relinquishing all control of the payment, and because the payment will be used to underwrite only "gold standard" mitigation projects that will also not be under control of the Party, the environmental integrity of the commitment period is protected, and the Party earns the privilege to use the Fund credits immediately for compliance purposes even though they represent future, rather than accrued, GHG reductions.

Under a domestic fund, by contrast, the Party with overage will surrender neither the moneys nor control of project development and implementation. Because the needed emissions mitigation remains the responsibility of a Party that proved unable to adhere to its target during the commitment period, the performance of the domestic fund will be less certain than that of the Compliance Fund. Hence, it would be imprudent to award emissions credits to the Party before any mitigation actually occurs. Instead, a Party's verified, timely payment to a domestic fund should suspend, or stay, a finding of non-compliance. So long as the domestic fund produces mitigation at an approved rate, the finding would remain in suspension. But if the Party's fund failed to perform, then the finding would be triggered. Conversely, when the fund has accomplished verified mitigation in an amount equal to or greater than the overage, then the Party should no longer be liable for the overage nor subject to a finding of non-compliance.

b. Capitalizing the Fund; Oversight

The key to the Compliance Fund is that Parties with overage during the true up can avoid non-compliance by tendering full payment for Compliance Fund credits. Tendering payment demonstrates good faith, provides the money to remove the overage, and places Parties on a level economic playing field with their trading partners.

Should the COP[MOP] elect to authorize the use of domestic climate change funds, this same principle should guide their capitalization. As explained above, use of either the Compliance Fund or a domestic fund should be considered a privilege intended to accommodate a Party with overage during the true up. It should not be viewed as a right. Accordingly, a Party electing to use a domestic fund to facilitate its compliance should be permitted to do so only if it fully capitalizes the fund in the prescribed amount at the time of its request, during the true up. Any other rule could lead to delay and uncertainty as to whether the Party has actually complied with its commitments, and will provide an incentive to those Parties who may be inclined to treat their Article 3.1 obligations laxly to continue doing so, while increasing the uncertainty of those Parties and private actors who take their obligations seriously.

Rules will thus need to be adopted establishing a framework for how and when a domestic fund will be capitalized, how and by whom it will be administered, and how the home Party will provide assurance to other Parties that it is adhering to the rules. At a minimum, approval of a domestic fund should require:

- Escrow or trust account. Moneys for a domestic fund must be held in a discrete, protected account that may be used only by the fund. Parties applying to use a domestic fund during the true up must provide documentation of the account's existence.
- Integrity of the fund; disbursements. Applicant Parties must provide details of how the integrity of the escrow or trust account will be protected from misappropriation, diversion, or any "off budget" use. Details should include how disbursements from the account will be monitored.
- Capitalization. Parties electing to use a domestic fund for compliance purposes may suspend or stay a compliance proceeding only after presenting proof that the designated account has been fully capitalized with the requisite amount of money.
- Independent auditing. This will be a key feature of any domestic fund. All applicant Parties must submit to the Protocol's compliance institution the results of independent audits of their domestic fund. Audits should contain sufficient information to confirm that a Party has complied with all international rules governing its domestic fund. The audits should be conducted by internationally recognized and approved operational entities, and should be submitted at the time of the application during the true up, and at regular intervals for the life of the fund.

Potential supporters of a domestic fund should note that the political palatability gained by retaining fund moneys and thereby not "signing a check" to an international institution will have its own financial and political price. Implementing and enforcing the rules will

necessarily increase the role international institutions must play in monitoring how a Party manages its domestic fund. Compared to the Compliance Fund, this will increase costs for both the Party and the compliance system at large. It will also require a higher degree of international involvement in fiscal activities that ordinarily would be under the sole prerogative of the Party.

c. Approved Project Types; Oversight

To avoid allowing a domestic fund to become a mere promise to engage in CDM or JI projects in the future, and to help stimulate Annex I Parties to take meaningful domestic mitigation action, projects underwritten by a Party's domestic fund should be sited in that Party's national territory.

As discussed above, Parties taking advantage of a domestic fund must not receive "credit" simply by making payment to their fund during the true up. Instead, they should remain liable for their overage until the fund's GHG abatement has fully accrued. This fundamental difference between the Compliance Fund and a domestic fund implies that it may be less important for domestic fund projects to be as reliable as Compliance Fund projects will need to be. However, because use of a domestic fund would (1) entitle the Party to a suspension or stay of compliance proceedings, (2) obligate the Party to mitigate a specific number of tonnes, and (3) create a moral hazard that the Party would define and implement projects in environmentally and economically lax ways, domestic fund projects must be subject to strict baseline, additionality, monitoring and verification rules.

Under the ongoing negotiations to develop rules for the Kyoto mechanisms, some Parties have suggested that there is no substantive difference between Article 6 JI and Article 17 emissions trading activities. They accordingly propose that JI projects should be subject to whatever rules the home and host Party agree to, rather than the strict, internationally mandated rules that will (presumably) apply to CDM projects.[13] We strongly disagree with this proposal and instead support the notion that JI projects should be evaluated under terms as rigorous as CDM projects. However, even if JI rules ultimately do not require rigorous, independent evaluation, projects implemented under a domestic fund will need to be subject to the same level of oversight as CDM projects. In particular, this should include the verification of all claimed GHG mitigation by independent, certified operational entities. Strict oversight will be essential, given the fact that claimed benefits from such projects will represent satisfaction of the Party's climate debt for which—but for the domestic fund—it would have been subject to a finding of non-compliance.

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[13] *See* Australia, Canada, et al. (Umbrella Group), *Proposed Revisions to the Note by the Chairman of the Contact Group on Mechanisms of 5 November* (Jan. 31, 2000). As we understand it, the reasoning underlying this proposal is that, because a JI host must decrease its assigned amount by any ERUs it transfers, JI is essentially a project-based form of emissions trading. However, because the host will also presumably subtract the reductions or removals accomplished by the project from its inventory, the project will, in effect, increase the pool of assigned amount units available to the Party and Annex I Parties as a whole. From the view of protecting the environmental integrity of the overall Annex I budget, we believe such an increase in net assigned amount should be subject to independent auditing, verification, and certification.

As for project quality, a "gold standard"—e.g., renewables such as solar, wind, bio-gas or geothermal, with an emphasis on mitigation that accrues reliably and quickly—should apply to projects whether they are implemented under the Compliance Fund or a domestic fund. Even though the use of a domestic fund will not entitle a Party to credit in advance (as will be the case with the Compliance Fund), enhanced project reliability will help assure that the domestic fund accomplishes its required mitigation quickly and with less chance of project under-performance or failure. This will promote timely resolution of the Party's compliance question. Timely resolution will, in turn, lead to lower compliance-related costs for both the Party and the Protocol's compliance system, less possibility that the domestic fund may create a loophole in the Protocol's environmental objectives, and increased confidence of other Parties in the Protocol as a whole.

d. Setting the Price

As pointed out earlier, it could be difficult under an unregulated domestic fund to develop any coherent standard for setting a per-tonne price for compliance purposes. In our view, a domestic fund without a price standard would provide no basis upon which compliance could be judged, and would likely represent little more than a promise from the Party that it would make up for its overage sometime in the future.

Because the fundamental purposes of the Compliance Fund and a domestic fund should be the same—facilitating a Party in mitigating its overage when there are insufficient Kyoto mechanisms credits available on the open market—we believe the per-tonne price should be set in the same manner, regardless of which form of the fund is used. (For the specifics of how the price should be set, please refer to "Setting the Price" *supra* p. 5.)

The two fund types will be different in an important way, however. For the Compliance Fund, the per-tonne price serves as a liberal estimation of the cost of mitigating a Party's overage; timely and full payment absolves the Party from any further liability for that overage. By contrast, payment into its domestic fund will not absolve a Party of liability. Rather, the Party should remain liable for its overage until its domestic fund fully accomplishes the requisite mitigation. Hence, if the per-tonne price proves to be inadequate, the Party will have to replenish the fund with enough money to produce the necessary mitigation.

It may be reasonable that the reverse of that scenario should also apply—i.e., that the Party should be able to redeem or "cash in" any surplus remaining in its fund after its overage is fully mitigated. Such a rule could risk providing an incentive to Parties to "game the system" by rent seeking or manipulating the apparent performance of their projects. Whether or not that risk could be avoided would depend on the ability of the relevant Protocol institution to verify the performance of a given Party's fund.

III. REMEDIAL MEASURES TO CURE NON-COMPLIANCE

After the commitment period and true up end, Parties that have failed to cure their overage will be out of compliance with Article 3.1. Such Parties will be subject to a non-compliance

proceeding that could lead to facilitative, remedial or punitive responses.[14] As has been widely noted in the sessions of the JWGC and the Parties' various submissions, and exemplified by the Montreal Protocol's Non-Compliance Procedure, facilitation may constitute an important approach for helping Parties that lack technical or economic capacity bring themselves into compliance or avoid going into non-compliance in the first place. However, there may come a point at which open-ended facilitation no longer serves its intended purpose, and there may be some non-complying Parties for whom facilitation is inappropriate.[15] To be effective in these situations, the compliance system must contain provisions for more decisive responses.

The purpose of such responses in the Kyoto Protocol should be, first and foremost, to encourage Parties to comply by deterring them from non-compliance. However, should the possibility of a non-compliance finding and response fail to deter a Party from breaching its obligations, then it should be subject to a consequence that (1) restores atmospheric GHG accumulations to where they would have been had the Party complied and (2) results in the Party disgorging the economic benefit of its non-compliance. A *remedial measure* can provide the means by which the atmospheric and economic harm can actually be cured. If the non-complying Party fails to use the remedial measure to fix the harm, a *punitive measure* may be needed to induce the Party to do what it otherwise is disinclined to do.

Punitive measures, such as public "shaming," suspension or loss of treaty privileges, and imposition of trade measures may convince a Party to change its behavior. (These measures will be discussed in more detail in Part IV, *infra*.) Nevertheless, a repentant Party will still need a means of translating its decision into actions that will mitigate its overage and disgorge the economic benefits of its non-compliance. Paying a fine or monetary assessment may accomplish the latter task; however, fines cannot, in and of themselves, repair the damage to the climate. A mechanism such as the Compliance Fund is necessary to do that. Similarly, the "subtraction of tonnes" or "reduction of future assigned amount" proposal also listed in the Co-Chairs' "Elements" paper could, in theory, bring about a balancing of climate ledgers.

A. FINANCIAL PENALTIES

1. Role of Financial Penalties in the Kyoto Protocol

Financial penalties have been authorized as responses to non-compliance in few multilateral agreements to date. Perhaps the most noteworthy of these is the North American Agreement on Environmental Cooperation (NAAEC),[16] which contains detailed provisions for imposing "monetary enforcement assessments" against non-complying parties. Parties that are adjudged to have persistently failed to enforce their domestic environmental laws can be liable for the assessment if they fail to remedy the situation. For the first year in which the NAAEC entered into force, such assessments were not to exceed US$20 million. Now, they

[14] The rules may provide that Parties can waive their right to such a proceeding, especially where non-compliance with Article 3.1 is clear and the response is automatic.
[15] This could be the case particularly for wealthy Annex I Parties whose uncured overage can be traced to a lack of political will, rather than economic or technical capacity.
[16] North American Agreement on Environmental Cooperation, Sept. 14, 1993, 32 I.L.M. 1480 (1993).

may be no greater than .007% of the total trade in goods between the parties for the most recent year in which data is available.[17]

Despite the limited number of international precedents, Parties negotiating rules for the Kyoto Protocol's compliance system recognize that the profound threat of global warming—and the fact that taking meaningful action may impose significant costs upon their economies—warrant consideration of a full range of compliance measures, both to ensure the environmental integrity of the agreement and to provide assurance that Parties' individual efforts will not be undercut by "free riders." The Co-Chairs' "Elements" paper reflects this by including "financial penalties" among the list of potential outcomes or consequences to non-compliance.

As noted above, a financial penalty levied against a non-complying Party can result in the Party forfeiting the economic benefit it enjoyed from its non-compliance, provided the fine is carefully tailored to the circumstances and the treaty institution has the authority to enforce the Party's obligation to pay by imposing punitive measures. Without such authority, the treaty institution must rely upon the good will of the Party to satisfy the levy—which may be unrealistic, given that the Party allowed itself to go out of compliance in the first place.

2. Relationship to Compliance Fund

Even if a Party to the Protocol is willing to pay a financial penalty for non-compliance in full, the payment will not be remedial—that is, it will result in no benefits to the climate—unless it is tied to a means of mitigating the overage that caused the non-compliance. Therefore, proceeds from financial penalties should be paid to the Compliance Fund to be used for abatement of greenhouse gas emissions.

3. Dynamic or Floating Financial Penalty

a. Computing the Penalty

As discussed earlier in this paper, the price of Compliance Fund credits should be computed using a dynamic or floating formula, based upon the costs of developing "gold standard" mitigation projects.[18] A financial penalty for non-compliance could be computed in a similar manner. However, such a penalty should be increased so that it is automatically more expensive than Fund credits are during the true up. This increase will reflect the serious implications that non-compliance with the Protocol should carry (as opposed to preventing non-compliance by voluntarily curing overage during the true up), as well as the added costs that delay will impose on the environment, other states, and administration of the compliance system. Moreover, like an interest penalty for overdue taxes, financial penalties under the Protocol should continually increase as long as they remain outstanding.

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[17] *See id.* annex 34.
[18] *See* "Setting the Price" *supra* p.5.

The formula for a dynamic financial penalty for non-compliance could thus be:

> Compliance Fund credit price[19] x (1 + penalty rate) x (1 + (monthly/daily interest rate x months/days overdue)).

b. Strengths and Weaknesses

The strengths of using a dynamic formula for computing financial penalties for non-compliance are similar to those identified in the discussion of the Compliance Fund earlier in this paper. Because the formula is pegged to the actual costs of reliable mitigation projects, it will result in assessments that are high enough to underwrite projects capable of making the climate whole. This, combined with the additional non-compliance penalty rate and monthly interest rate factors of the formula, will also serve to make the assessment clearly more expensive than timely compliance would be, thereby assuring that the existence of the assessment will not have the perverse effect of giving Parties an incentive to delay. The penalty and interest could be used to purchase additional reductions to compensate for the environmental harm from delay.

The weakness of the dynamic formula is that it may raise prices above a level that Parties are willing to accept, which could create a significant impediment both to ratification and implementation. Particularly during the first commitment period, when the implementation of their obligations will to a significant degree be a learning experience, some Annex I Parties may resist exposing themselves to the possibility of open-ended liability, especially if they believe their non-compliance could be beyond their control. Such Parties may also be reluctant to empower an international institution with the authority to mete out non-compliance responses that could be perceived as reparations. Accordingly, we recommend that negotiators who are advocating financial penalties stress their important role in making the climate whole and neutralizing the unfair trade and other economic advantages of non-compliance.

4. Fixed-Rate Financial Penalty

a. The Basic Idea

For those Parties who fear price uncertainty, penalties set at a fixed per-tonne rate determined before the commitment period begins may provide a more politically palatable option than those that use the dynamic formula. Under this arrangement, a Party with overage at the close of the commitment period and true up would be subject to a formal finding of non-compliance with Article 3.1.[20] As a consequence of its non-compliance, the Party would be

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[19] *See id.*

[20] At least one commentator has noted that the fixed-rate penalty would tend to shift the meaning of Article 3.1 compliance from meeting one's emissions target to instead meeting a per-tonne "level of effort" denominated in money. *See* Raymond J. Kopp, *Definitions of Kyoto Compliance: Reducing Uncertainty and Enhancing Prospects for Ratification* (Resources for the Future, revised Dec. 1999). A true "level of effort" compliance rule would mean that any Party that could show it had expended the required effort would be in compliance with the Protocol. For example, if the required level of effort were $50 per tonne, a Party that had implemented a carbon tax of $50 per tonne on all its sources would automatically be deemed in compliance. However, the compliance rule as adopted in Article 3.1 requires Annex I Parties to emit less than their assigned amounts; if a

assessed a fee determined by multiplying the tonnes of overage by the fixed per-tonne rate. The Party's non-compliance would be considered cured upon payment of the fee, and the Party would not be subject to any further compliance proceedings. The need to "make the climate whole" would be addressed by directing the collected fee to the Compliance Fund.[21]

b. Fixed-Price Penalty as a Price Cap

Such a fixed rate could tend to function as a price cap or ceiling for the commitment period as a whole. Because the per-tonne costs of non-compliance would be known in advance, Parties and their domestic entities might endeavor to achieve domestic emissions reductions or purchase Kyoto mechanism credits only so long as the per-tonne price does not exceed the fixed rate. Depending on a Party's circumstances, other consequences of non-compliance (for example, suspension of the right to sell AAUs) could mitigate against this tendency.

c. Strengths and Weaknesses

The main strength of using financial penalties based upon fixed per-tonne rates is their predictability. While Parties may not know in advance precisely how their commitment period performance will compare to their targets, they would know how much each tonne of overage would cost them. Hence, a fixed rate could provide significant price certainty to Parties and their public and private entities.

If the fixed-rate penalty was set at a high enough level (e.g., U.S.$ 100-150), it could still act as a strong deterrent to non-compliance, could result in a Party relinquishing the economic benefits of its non-compliance, and could raise revenues sufficient to underwrite projects that could mitigate the Party's overage for the commitment period. However, for Parties whose commitment to taking meaningful action against climate change is uncertain, such a rate would present some of the same political problems as the dynamic rate; namely, it would require them to commit in advance to devoting potentially significant financial resources toward GHG mitigation, either during the commitment period or after.

By contrast, a fixed-rate penalty that was set at a relatively low rate could enhance the Parties' will to adopt binding consequences to non-compliance. Any provision for financial penalties in an environmental regime with as broad membership as the FCCC and Protocol would represent a major step forward in the development of compliance remedies for international environmental agreements as a whole. Once Parties accomplish this hurdle, and as they gain more experience with their implementation of the Protocol, they may become more amenable to raising the rate to environmentally effective levels. A broad willingness on the part of Parties to satisfy financial penalties levied against them would help Parties

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Party has overage after the commitment period and true up end, that Party will be in non-compliance, regardless of what level of effort it devoted towards mitigation. Accordingly, the availability of a fixed price penalty— even a very low one— will not, in and of itself, enable Parties to avoid a finding of non-compliance.

[21] To ensure that the majority of the fee goes to mitigation rather than extraneous costs, a Party found to be in non-compliance should also be responsible for the administrative costs of the compliance proceeding as well as interest computed from the time of the non-compliance finding through the date that payment of the fee is received.

avoid the necessity of implementing more punitive and divisive methods of inducing non-compliers to remedy their breach.

The weakness of fixed penalties is that, to the extent they function as a price cap, they could limit environmental effectiveness. If the rate is set too low, Parties will have an incentive to ignore their targets and go into non-compliance, especially if they believe other Parties will do the same, and if they believe being subject to a compliance proceeding and finding of non-compliance will not carry significant political costs.

A low per-tonne rate would not result in sufficient revenues to underwrite high quality projects capable of mitigating the overage. Instead, penalty fees would be able to accomplish full mitigation only if they were invested in projects that were high-risk or unproven technologies, or were subject to lax baselines, additionality, monitoring and verification rules. But relying on such projects to mitigate overage would be little more than gambling. Inevitably, project failure and under-performance would lead to greater atmospheric GHG concentrations than would have been the case had all Parties complied with their targets. Even though a low fixed rate could increase "technical" compliance, it would most likely lead to diminished accomplishment of the Protocol's environmental goals.

Too low a fixed rate could also have the effect of diverting capital flows from the Kyoto mechanisms, particularly from the CDM. A penalty price cap known throughout the commitment period will tend to serve as a per-tonne cap on the price of mechanisms credits. This implies that the only projects that would be able to attract funding would be those that could promise credits priced below the cap. Accordingly, a fixed penalty rate could result in fewer and lower quality CDM and JI projects and, in turn, lower levels of funding for the sustainable development needs of developing countries and economies in transition. For those who espouse the virtues of these market-based approaches to GHG control, and who anticipate that these approaches will be key to induce "meaningful participation" from non-Annex I Parties, a poorly conceived price cap could threaten both strategies.[22]

B. "SUBTRACTION OF TONNES"

1. The Basic Idea

The notion of allowing a Party to cure its overage from one commitment period by reducing its assigned amount from the next has been an element of compliance proposals since before the Protocol was adopted. Originally, the idea was presented as "borrowing," which would have allowed Parties with overage at the end of the commitment period *avoid non-compliance*. Before the close of the commitment period or true up, such Parties would declare that they were taking parts of their assigned amounts from the next commitment period and adding those parts to their current assigned amount, so that their aggregate emissions no longer exceeded their assigned amount and they were thus in compliance with their core obligations. The Party would then figure out how to "make up the difference" during the course of the subsequent commitment period.

[22] Under some circumstances, reduced reliance by Annex I Parties upon reductions achieved overseas will mean that such Parties are taking greater reduction actions at home. This will obviously not be the case, however, if Parties can buy their way out of non-compliance at a lower cost than taking domestic action.

The Parties rejected borrowing before COP3 and it was not included in the adopted Protocol. Instead, the proposal resurfaced in the form of "subtraction of tonnes" or "reduction of future assigned amount." The key difference between these latter-day iterations of borrowing and the original idea is that borrowing was viewed as a way to *avoid* non-compliance, while subtraction is now proposed as a *consequence* to non-compliance.

Under the current proposal, a Party that does not cure its overage during the true up would be subject to a finding of non-compliance. Upon such a finding, the Party could "subtract" part of its assigned amount from the next commitment period. The amount subtracted would equal the overage multiplied by a penalty factor, e.g. 1.3.[23] This non-compliance consequence could be applied automatically, with a minimum of administrative and legal process, or, if the Party disputed the allegation of overage, as the outcome of a full compliance proceeding.

2. Strengths and Weaknesses

a. Political Feasibility; Potential Effectiveness

The attraction of subtraction of tonnes is that it allows Parties to support a consequence to non-compliance without exposing themselves to any immediate "pain" should they find themselves in non-compliance after the commitment period and true up. For those Parties that are unsure of their ability to garner domestic political support for ratification of the Protocol, this "soft" consequence might serve to balance the demands of constituencies who would prefer no binding commitments at all against those who recognize the need to move beyond the un-quantified, unenforceable standards of the Framework Convention.

Moreover, if a Party subject to reduction of tonnes actually makes good on its promise and emits no more than its reduced assigned amount during the next commitment period, then the atmosphere will be "made whole" (or even slightly improved, considering the added penalty amount), all in a relatively short period of time and without recourse to punitive or other confrontational measures.

b. Deferred Action

That condition—*if* the Party makes good on its promise—is also the proposal's great weakness. Unlike remedial measures like the Compliance Fund and financial penalties, subtraction of tonnes does not require the non-compliant Party to take any specific action at any particular time. Rather, it consists of a promise from a Party lacking the will or wherewithal to honor its past commitments that it will somehow discover the means to meet its future targets—*decreased* by the amount of its present overage.

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[23] *See* United States, *Compliance-Related Issues: Submission of the United States* (Jan. 31, 2000) [hereinafter U.S. Compliance Submission (recommending that in cases of overage after the true up, Party's "assigned amount for the subsequent commitment period should be reduced by a number of tonnes equal to [1.3] the number of tonnes by which it exceeded its assigned amount"); *see also* Tim Hargrave et al., *Defining Kyoto Protocol Non-Compliance Procedures and Mechanisms* 20 (Center for Clean Air Policy Oct. 1999).

Subtraction thus provides little assurance that the environmental debt will be repaid or that the overage will not become a permanent addition to total atmospheric accumulations. Because it allows a Party to delay the "day of reckoning" until the end of the next commitment period (or forever, if overage can continue to be rolled over into future commitment periods), its effectiveness as a remedy cannot be thoroughly assessed until years after the Party goes into non-compliance.

c. Minimal Deterrence

If the payback penalty is set too low, the deterrent value of subtraction will be minimal. In fact, a rational Party may view subtraction as an incentive *not* to comply if the penalty is lower than the discount rate over the course of the next commitment period. (Of course, a Party's calculation whether to comply will depend on its consideration of the full suite of compliance responses, including possible punitive measures.)

One proponent of subtraction has noted that effective deterrence requires that the punishment times the probability of being punished must be greater than the gain from non-compliance, where all amounts are expressed in present values.[24] An effective deterrent against overselling AAUs or avoiding their timely purchase would thus require that the penalty a Party anticipates be greater than the present gains of non-compliance, adjusted by the discount rate and the period of time before the penalty would be paid.

In its most recent submission on compliance-related issues, the United States proposed a payback rate, or punishment, of 1.3.[25] A Party resorting to subtraction of tonnes at the end of one commitment period could conceivably "pay back" the penalty by purchasing assigned amount units as late as the last year of the following period (or even during the true up). That means that a Party with overage could have at least five years before it needed to make good on the penalty, assuming it did not have the option of using subtraction to roll that penalty into a *third* commitment period. The length of time could be as long as ten years if the Party's overage could be traced to overselling in the early part of the first commitment period.

At about 5.25%, the discount rate in the United States is currently much lower than the twenty year average (though it is rising).[26] In countries with higher interest rates, the discount rate will be higher.

Using a "best case scenario"—a Party *one hundred percent certain* that it will be punished for its non-compliance, the discount rate staying at 5.25%, and the payback period no longer than five years—the deterrence formula described above shows that a payback rate of 1.3 might be just enough to dissuade a Party from choosing non-compliance over compliance. But if the Party believes there is a possibility it will not be punished (because, for instance, it can continually roll the overage into a new commitment period), or if the discount rate rises

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[24] *See* Hargrave, *supra* note 23, at 20.
[25] *See* U.S. Compliance Submission, *supra* note 23.
[26] *See* Woodrow Federal Reserve Bank of Minneapolis, *Discount Rates—Historic Through Present*, <http://woodrow.mpls.frb.fed.us/economy/bankdir/disc.html> (visited Feb. 23, 2000).

or the Party can extend the payback time beyond five years, then the payback rate will need to be much higher, lest it serve as an *incentive* for non-compliance rather than disincentive.

d. Cascading/Rollover Overage

Even if the payback penalty is set at an amount ostensibly high enough to deter non-compliance, it will provide no deterrence whatsoever if a Party can "rollover" its overage by using the subtraction of tonnes "consequence" for commitment period after commitment period. Allowing Parties to "payback" their overage and penalties by repeatedly borrowing from the next commitment period would be like allowing a consumer to pay off his credit card debt by repeatedly borrowing from newly opened accounts. Just as when a credit card pyramid scheme collapses and leaves creditors with worthless bankruptcy claims, successive use of the subtraction of tonnes option would likely leave other Parties holding worthless promises and climate ledgers forever out of balance. Yet the various subtraction of tonnes proposals have been moot on this point.

e. Impact on Subsequent Budgets; Assurance to Other Parties

An oft-repeated objection to the borrowing and subtraction of tonnes proposals is that they would provide Parties with an incentive to inflate their budgets in the next commitment period. This risk is a genuine one. The amount of reductions a Party thinks it can reasonably achieve in the coming commitment period will be diminished by the number of tonnes it must subtract from its assigned amount in that period. To the extent a Party can anticipate its overage, it will have an incentive to inflate its next budget by that amount multiplied by the payback rate. This could have a corrosive effect on negotiations, as other Parties might seek to protect themselves by inflating their own budgets.

Subtraction of tonnes poses an additional and equally dangerous threat to the integrity of subsequent budgets. One of the most important functions of a compliance system is to provide assurance to other Parties. As explained above, subtraction provides minimal deterrence, little guarantee of making the climate whole, and little or no financial sacrifice on the part of the non-complying Party. In turn, it will provide little assurance to Parties that their own efforts to comply will not be undermined and their economic competitiveness undercut by "free riders." With diminished assurance, all Parties may become less inclined to take the steps needed to meet their targets. Or they may become less inclined to accept aggressive budgets for themselves, on the belief that the apparently strict budgets adopted by others will be meaningless if they can be circumvented by borrowing or subtraction.

This dynamic could be exacerbated if subtraction is applied as a remedial measure in an automatic fashion, allowing the Party to use it without going through a public and potentially costly compliance proceeding. If combined with the opportunity for unlimited rollovers from commitment period to commitment period, the automatic application of a subtraction-of-tonnes consequence—without the attendant political and financial costs of a compliance proceeding, the provision of a compliance plan, or the oversight of the compliance system—could amount to allowing Parties unilaterally to re-negotiate their budgets.

3. Borrowing/Subtraction: Summary of Arguments

In a limited sense, subtraction of tonnes is an improvement over the original idea of "borrowing," because it is proposed as a consequence of non-compliance instead of a way to circumvent a finding of non-compliance. Nonetheless, we believe subtraction is unacceptable, because it retains most of borrowing's pitfalls. In particular, subtraction fails because it:

- Allows Parties to defer taking action to eliminate their overage;
- Contains the possibility that Parties will repeatedly "roll over" their overage by freely borrowing from commitment period to commitment period, thereby destroying the integrity of the commitment period;
- May provide an incentive, rather than disincentive, for non-compliance if the penalty payback rate is set too low;
- Provides little assurance to other Parties that the environmental harm and economic benefits of non-compliance will be corrected, thus potentially diminishing the will of those Parties to comply with their own targets.

C. COMPLIANCE PLAN

As we have noted throughout this paper, remedial compliance measures such as the Compliance Fund or financial penalties will optimally preserve or restore the environmental integrity of a Party's budget and prevent or eliminate any economic benefits of non-compliance. By using these measures, a Party with overage can provide assurance to other Parties. By contrast, measures such as a domestic fund or subtraction of tonnes, which depend on the Party's pledge to implement the corrective measure over time, may provide other Parties with significantly less assurance that the measure will ultimately be successful.

One way of addressing this shortcoming would be to require Parties that use these latter, self-directed measures to negotiate a *compliance plan* with the compliance body. Before obtaining approval to use the measure, or within a specified period of time, the Party with overage would submit a clear and detailed plan demonstrating how and why it will be able to change its implementation strategy to ensure that it can repay its first commitment period debt while simultaneously meeting its second commitment period target. The plan, in the form of a binding contract between the subject Party and the COP/MOP as a whole, would be subject to approval and/or amendment by the compliance body as necessary.

IV. ENFORCING COMPLIANCE WITH PUNITIVE MEASURES

As we discussed earlier in this paper, a suite of effective "consequences" to non-compliance will include (1) a remedial function, which provides the means by which the harm caused by the non-compliance will actually be fixed; and (2) a punitive function, which actually induces the Party to do something it would not otherwise be inclined to do. The Compliance Fund, domestic funds, financial penalties (with proceeds going towards reductions) and subtraction

of tonnes are examples of proposals that could serve the remedial function. But these tools will work only if the non-complying Party agrees to use them. In the event the Party fails to do so, then a "stick" or punitive approach will be necessary to apply pressure on the Party until it changes its position. These approaches include, *inter alia*, issuing reports/applying public pressure, suspending treaty privileges, and implementing trade-related measures.

The purpose of such responses should be, first and foremost, to encourage Parties to comply by deterring them from non-compliance. Deterrence will be most successful when Parties believe their non-compliance will be met with a timely and proportionate response and when the disincentives contained in the response are clear and known well in advance. At a minimum, a Party should be confident that its non-compliance will be discovered and publicized, it will fully forfeit any economic benefit it might enjoy by its failure to comply, and it will be in a marginally worse overall position after non-compliance than it will be if it complies. For an environmental agreement like the Kyoto Protocol, successful deterrence prevents the environmental damage of non-compliance, which is nearly always more costly to correct than avoiding the damage in the first place.

If deterrence fails and a Party goes out of compliance, remedial measures provide an opportunity for the Party to repair the breach. But remedial measures, by design, are more costly than avoiding non-compliance. Thus, Parties may be disinclined to utilize such measures unless there is a credible threat that punitive measures will be imposed. Assuming Parties will generally take the easiest or least costly compliance route, the disincentives of the punishment must be more painful than the remedy.

A. ISSUING REPORTS/PUBLIC APPROBATION

The most commonly used punitive measure for many multilateral treaty regimes is public approbation—broadcasting a treaty violation to other parties and/or the public at large. By identifying, publicizing, and making recommendations for those cases in which state parties are failing to comply with their obligations, treaty institutions help maximize transparency, permitting other states, non-governmental organizations and the public to bring pressure upon governments, while deterring some states from violating their obligations in the first place. Public approbation may thus be most effective as an enforcement tool in states that have a tradition of civic activism and a political structure that is responsive to civil society. In countries where the government is more insulated from direct public influence, public reports and approbation may be less successful in influencing state behavior.

Compliance proceedings under the Kyoto Protocol can play a key role in focusing public pressure on non-complying Parties. Such proceedings should be fully transparent and open to the public, so that they may harness civil society's considerable influence in inducing Parties to comply with their obligations. In this regard, Parties should beware allowing automaticity of consequences to become a means for non-complying Parties to avoid the public scrutiny that a compliance proceeding will entail.

However, where a Party admits to non-compliance, for example, by self-reporting or acknowledging the findings of a review team, compliance proceedings probably can be dispensed with. Nevertheless, it is important that details of the Party's non-compliance be

publicized. The Convention on International Trade in Endangered Species (CITES)[27] publishes a periodic "Alleged Infractions Report" that lists parties that are failing to adequately regulate trade in endangered or threatened wildlife species.[28] Similarly, all information on the state of a Protocol Party's compliance should be broadly disseminated. Expert reviews should be published and available on the UNFCCC website. The secretariat should also publish an annual list of Parties that are not in compliance.

B. SUSPENSION OF TREATY PRIVILEGES

Like the use of reports and public approbation, suspension of treaty privileges is a staple of compliance response approaches employed in multilateral agreements. Suspension can range from a restriction of voting rights, or loss of rights to participate in meetings, to loss of access to information or a service provided under the agreement. To a certain degree, suspension of rights can be viewed as a strong form of public approbation, because its punitive character partly stems from the threat that a state party will lose face and influence should suspension be implemented against it.

In light of the fact that states have broadly accepted suspension of treaty privileges in numerous multilateral environmental and other agreements, we presume that Kyoto Protocol Parties will support their inclusion as consequences for non-compliance with Article 3.1.[29] The more interesting question is what role suspension of privileges to engage in the various Kyoto mechanisms—especially Article 17 emissions trading—will play in the compliance system.

The integrity of assigned amount units sold via emissions trading will obviously depend on whether the selling Party complies with its target at the end of the commitment period. If some Parties "oversell," so that their adjusted assigned amount is less than their aggregate emissions, then the overall goal of Annex I Parties reducing their emissions by at least five percent will not be met. Because the compliance status of sellers will be so critical to whether the Parties collectively meet their objective, any Party that is found to be in non-compliance because of overage should be prohibited from selling in the next commitment period.

Such a sanction will have deterrent value only for potential sellers. It will be ineffective against Parties that are unable to sell or that intend to bank their excess emissions for use in later commitment periods. We strongly support including loss of trading rights among the indicative list of consequences to non-compliance. However, we caution that it will not serve as a deterrent for all classes of Parties and will thus be inadequate should the Parties fail to authorize the use of other punitive measures.

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[27] Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, 12 I.L.M. 1085 (1973) [hereinafter CITES or Endangered Species Convention].

[28] *See* John Lanchbery, *Long-Term Trends in Systems for Implementation Review in International Agreements on Fauna and Flora, in* THE IMPLEMENTATION AND EFFECTIVENESS OF INTERNATIONAL ENVIRONMENTAL COMMITMENTS: THEORY AND PRACTICE 57, 71 (David G. Victor, Kal Raustiala, and Eugene B. Skolnikoff eds., 1998).

[29] The January 31, 2000 compliance submissions of Argentina, Australia, Brazil, China, Japan, Poland, AOSIS, South Africa, Switzerland, and the United States recommend some form of suspension-of-privileges consequence.

C. TRADE-RELATED MEASURES

Trade-related measures, especially trade sanctions, are among the strongest "sticks" in the compliance response arsenal. Optimally, they could serve under the Protocol as both a punishment intended to force a recalcitrant Party to alter its behavior and as a means of fixing the harm caused by non-compliance.

The punitive aspects of trade sanctions are obvious—broad based, multilaterally implemented sanctions have been used by the international community on numerous occasions against states whose behavior was adjudged to violate international norms. Such sanctions generally have been reserved for the most egregious of circumstances, such as the invasion of Kuwait by Iraq.

Finely targeted trade measures may be a more effective and politically acceptable means of pressuring recalcitrant Parties to correct their behavior and relinquish the economic benefits of non-compliance.[30] Unlike broad-based sanctions, targeted trade measures can enjoy significant political support from a country's commercial entities, because those entities may believe such measures will protect them from costs they might bear if foreign producers with whom they compete do not have to comply.

Targeted trade measures have been used effectively under the Montreal Protocol[31] and the Endangered Species Convention[32] against non-complying parties and non-parties to restrict their trade in regulated substances or goods when the trade threatens the objectives of the agreements. Similarly, the World Trade Organization (WTO) authorizes members to use targeted trade measures in lieu of compensation when they have been harmed by the unfair trade practices of another WTO member.[33] Examples of targeted trade measures under the Kyoto Protocol could include restrictions on a Party's right to export electricity, energy-intensive goods or fossil fuels, and to import inefficient energy-consuming products and technologies.

D. THE QUESTION OF "DE MINIMIS" VIOLATIONS

A rule that applies punitive measures to all Parties that are out of compliance with Article 3.1 raises the question how the compliance system should account for "de minimis" violations. For example, if a Party has overage of 5000 tonnes of CO_2 equivalent out of a total budget of

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[30] As a means of "making the climate whole," trade measures might serve to diminish the production in a target Party of goods associated with high GHG emissions. Yet they would be a vastly blunter instrument for that purpose than the project-based reductions of the Compliance Fund, or even a negotiated policies and measures plan adopted as part of a reduction of tonnes arrangement. Accordingly, while we believe targeted trade measures could, in some cases, directly result in reduced GHG emissions, we do not believe they should be regarded as a substitute for these more expedient means, nor should they be designed in the expectation that direct GHG mitigation will be their primary accomplishment.

[31] Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, composite text including 1990 amendments, 21 INT'L ENV'T REP. (BNA) 3151 (1993).

[32] CITES, *supra* note 27.

[33] *See* Agreement Establishing the World Trade Organization, annex 2, Understanding on Rules and Procedures Governing the Settlement of Dispute *in* LEGAL INSTRUMENTS — RESULTS OF THE URUGUAY ROUND, Apr. 15, 1994, 33 I.L.M. 1125

100 million tonnes, would it be unfair or overly harsh to bar that Party from selling AAUs because of the relatively de minimis violation?

On its face, this may seem a "hard" question. In fact, it has a very simple answer. Any Party discovering during the true up that it has de minimis overage should be expected to immediately cure that overage by purchasing sufficient mechanism credits on the open market or from the Compliance Fund. Should the Party fail to do so, it will presumptively demonstrate its lack of good faith, and should thus be subject to the full range of available consequences, including loss of selling privileges in the next commitment period.[34]

V. CONCLUSION

We have identified several measures that would enable Parties facing imminent or actual non-compliance with Article 3.1 to remedy the situation. The Compliance Fund and domestic funds could allow Parties during the true up to avert non-compliance. Financial penalties (with proceeds applied toward GHG reductions) and borrowing/subtraction of tonnes would be intended to enable them to cure it afterwards. Each of these measures has particular strengths and weaknesses. The needs and circumstances of individual Parties will dictate which measure permits them to best accomplish the Protocol's objectives.

The Compliance Fund gives Parties certainty that they will have access to additional assigned amount if they have overage and the market cannot adequately provide Kyoto mechanisms credits. By making full payment into the Fund, Parties will no longer be liable for their overage. Parties that wish to limit their exposure to internationally imposed consequences will find this feature attractive, as will those that want to give a high degree of assurance to other Parties. Compared to a domestic fund, the international Compliance Fund may be a preferred mechanism for Parties facing relatively high domestic mitigation costs (assuming that domestic funds are restricted to investing in domestic projects).

Domestic funds may be preferred by Parties that have political difficulties supporting international institutions. Domestic funds also may appeal to Parties that have the governmental capacity to identify and invest in domestic mitigation projects efficiently, particularly if many of those projects are relatively inexpensive. However, such funds may present significant challenges for effective international oversight and verification.

Financial penalties could enable non-compliant Parties to return to compliance. This will be especially useful to Parties that did not discover and correct their overage during the true up. If financial penalties are capped (i.e., if the penalty price is fixed and known well in advance), they will give Parties an incentive to limit their level of effort to an amount equal to the cap. Although this may be helpful to Parties seeking assurance that their financial exposure during the commitment period will not be open-ended, it could result in significant amounts of overage becoming a permanent addition to atmospheric GHG accumulations.

[34] Should the review procedures of the compliance system reveal after the true up that a Party has de minimis overage, we believe the Party should have the opportunity to cure through mechanism or Fund purchases, so long as it does so before a compliance proceeding is initiated against it.

While borrowing/subtraction also may offer advantages to some Parties, the open-ended nature of the subtraction proposal could make its environmental cost unacceptable. The dangers that it could be used from commitment period to commitment period, that it could induce Parties to inflate subsequent targets, and that the "penalty" rate will be so low as to economically favor Parties that utilize it could mean that subtraction's costs to the environment outweigh its advantages to the non-complying Party.

The respective advantages and disadvantages of these remedial measures suggest that an optimal compliance system will rely on more than one of them. The rules might permit individual Parties to utilize a combination of measures. For example, a Party with overage might identify a limited set of cost-effective domestic mitigation opportunities that it wishes to take advantage of through a domestic fund. If these opportunities are not sufficient to cure its overage, it may want to obtain the rest of the needed reductions through the international Compliance Fund. For similar reasons, Parties desiring flexibility and price certainty may wish to have access to both a Compliance Fund, with its dynamic price determined by the actual cost of reductions, and a fixed-price penalty. We caution, however, that Parties should resist allowing price certainty to be purchased at the cost of the environment.

Carefully designed remedial measures may be key to enabling Parties to meet their commitments under Article 3.1. By adopting remedial measures that enable Parties to avert or cure their non-compliance in a timely and assured manner, Parties will demonstrate that they are serious about fulfilling their commitments and meeting the objectives of the Protocol. But Parties must recognize that remedial measures alone may not be enough. To ensure the success of the Kyoto Protocol, they should adopt carefully tailored, sufficiently stringent punitive measures as well.

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